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 --A method and DNA sequence encoding a protein kinase for producing apomictic seeds, the method comprising the steps of transforming plant material with a nucleotide sequence encoding a protein the presence of which in a cell, or membrane thereof, renders the cell embryogenic, regenerating the thus transformed material into plants, or carpel containing parts thereof, and expressing the sequence in the vicinity of the embryo sac. The DNA sequence encodes a leucine repeat rich receptor kinase, which preferably is modified to the extent that the ligand-binding domain is deleted or functionally inactivated.~

In the claims:

Please cancel claims 1-46.

Please add the following new claims:

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 47. An isolated DNA comprising a sequence encoding a protein kinase having the amino acid sequence depicted in SEQ ID No.3, SEQ ID No. 21 or SEQ ID No. 33, or a protein having an amino acid sequence which is at least 90% similar thereto and which hybridizes under stringent washing conditions of 3x20 min in 0.5% SSC, 1% SDS at 65° C with said isolated DNA having the sequence depicted in SEQ ID No. 1, SEQ ID No. 2, SEQ ID No. 20, or SEQ ID No. 32 and encoding a protein kinase having the same activity as the sequences depicted in SEQ ID No. 3, SEQ ID No. 21, or SEQ ID No. 33.

48. The DNA according to claim 47, wherein the protein is a leucine rich repeat receptor like kinase and comprises a ligand binding domain, a proline box, a transmembrane domain, a kinase domain and a protein binding domain.

49. ~~The DNA according to claim 47, wherein the protein is a leucine rich repeat receptor like kinase and comprises a ligand binding domain, a proline box, a transmembrane domain, a kinase domain and a protein binding domain.~~

50. The DNA according to claim 47, which further encodes a cell membrane targeting sequence.

51. ~~The DNA according to claim 47, which further encodes a cell membrane targeting sequence.~~

52. The DNA according to claim 47, wherein the sequence is modified in that known mRNA instability motifs or polyadenylation signals are removed or codons which are preferred by the plant into which the DNA is to be inserted are used so that expression of the thus modified DNA in the said plant yields a protein having an amino acid sequence which is at least 90% similar to the sequence of that obtained by expression of the unmodified DNA in the organism in which the protein is endogenous.

~~53. The DNA according to claim 47, wherein the sequence is modified in that known mRNA instability motifs or polyadenylation signals are removed or codons which are preferred by the plant into which the DNA is to be inserted are used so that expression of the thus modified DNA in the said plant yields a protein having an amino acid sequence which is at least 90% similar to the sequence of that obtained by expression of the unmodified DNA in the organism in which the protein is endogenous.~~

54. An expression vector containing the DNA sequence as claimed in claim 47.

~~55. An expression vector containing the DNA sequence as claimed in claim 47.~~

56. An expression vector according to claim 54, in which the protein encoding region is under expression control of a developmentally regulated or inducible promoter.

~~57. An expression vector according to claim 55, in which the protein encoding region is under expression control of a developmentally regulated or inducible promoter.~~

58. An expression vector according to claim 56, wherein the promoter is one of the following: a promoter which regulates expression of SERK genes *in planta*, the carrot chitinase DcEP3-1 gene promoter, the *Arabidopsis* AtChitIV gene promoter, the *Arabidopsis* LTP-1 gene promoter, the *Arabidopsis* bel-1 gene promoter, the petunia fbp-7 gene promoter, the *Arabidopsis* ANT gene promoter, the promoter of the O126 gene from *Phalaenopsis*; the *Arabidopsis* DMC1 promoter, or the pTA7001 inducible promoter.

59. An expression vector according to claim 57, wherein the promoter is one of the following: a promoter which regulates expression of SERK genes *in planta*, the carrot chitinase DcEP3-1 gene promoter, the *Arabidopsis* AtChitIV gene promoter, the *Arabidopsis* LTP-1 gene promoter, the *Arabidopsis* bel-1 gene promoter, the petunia fbp-7 gene promoter, the *Arabidopsis* ANT gene promoter, the promoter of the O126 gene from *Phalaenopsis*; the *Arabidopsis* DMC1 promoter, or the pTA7001 inducible promoter.

60. A plant cell transformed with the vector of claim 54.

61. A plant cell transformed with the vector of claim 55.

62. Plant cell according to claim 60, which is part of a whole plant.

63. Plant cell according to claim 61, which is part of a whole plant.

64. Plants transformed with the vector of claim 54, or the seeds or progeny of such plants, wherein said seeds or progeny contain said vector of claim 54.

65. Plants transformed with the vector of claim 55, or the seeds or progeny of such plants, wherein said seeds or progeny contain said vector of claim 55.

REMARKS

Applicant responds to the Office Communication mailed on January 2, 2002, received in the parent case identified as application Ser. No. 09/180,798 filed November 16, 1998. The Patent Examiner stated that the Applicant did not address the enablement rejection of claims 47-82 under first paragraph 35 U.S.C. 112 on page 6 under item 10 of the final office action mailed on June 19, 2001. Item 10 incorporates and bases its enablement rejection on the enablement rejection set forth in item 21 on pages 13 and 14 of the August 1, 2000 Office Action.

The test for enablement is whether a particular claim is supported by the disclosure in an application, and whether the disclosure, when filed, contained sufficient information regarding the